

Claims

1-22 Canceled

23. (Currently Amended) ~~The method of claim 22;~~ A method, implemented within a router of a network, for recovering from a failure, comprising:

sending, via a first route, a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router, wherein said first set of information traverses a path which encompasses at least a portion of said first route;

detecting a failure of said first egress module;

in response to said failure of said first egress module, directing a message to said ingress module informing said ingress module of said first egress module failure;

in response to said message, selecting an alternate egress module capable of forwarding information to said destination;

sending, via a second route, a future set of information from said ingress module to said alternate egress module for forwarding to said destination, wherein said first set of information and said future set of information are both part of a flow; and

in response to said message, preventing other sets of information associated with said flow from being sent from said ingress module to said first egress module;

wherein directing said message to said ingress module comprises:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said ingress module;

obtaining a return route from said routing table, wherein said return route  
directs said message to said ingress module along a different path  
than that traversed by said first set of information; and  
sending said message to said ingress module via said return route; and  
wherein said first egress module and said alternate egress module are  
predetermined, wherein identifiers associated with said first egress module and said  
alternate egress module are stored within a flow block associated with said flow, and  
wherein preventing comprises:  
storing an indication in said flow block that all sets of information  
associated with said flow are not to be sent to said first egress  
module.

24. Canceled

25. (Currently Amended) ~~The method of claim 24,~~ A method, implemented  
within a router of a network, for recovering from a failure, comprising:  
sending, via a first route, a first set of information from an ingress module to a  
first egress module for forwarding by said first egress module to a destination external to  
said router, wherein said first set of information traverses a path which encompasses at  
least a portion of said first route;  
detecting a failure of said first egress module;  
in response to said failure of said first egress module, directing a message to said  
ingress module informing said ingress module of said first egress module failure;

in response to said message, selecting an alternate egress module capable of forwarding information to said destination;

sending, via a second route, a future set of information from said ingress module to said alternate egress module for forwarding to said destination, wherein said first set of information and said future set of information are both part of a flow; and

in response to said message, causing other sets of information associated with said flow to be sent from said ingress module to said alternate egress module;

wherein directing said message to said ingress module comprises:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first egress module and said alternate egress module are predetermined, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, and wherein causing comprises:

storing an indication in said flow block that all sets of information

associated with said flow are to be sent to said alternate egress module.

26. (Currently Amended) ~~The method of claim 21,~~ A method, implemented within a router of a network, for recovering from a failure, comprising:

sending, via a first route, a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router, wherein said first set of information traverses a path which encompasses at least a portion of said first route;

detecting a failure of said first egress module;

in response to said failure of said first egress module, directing a message to said ingress module informing said ingress module of said first egress module failure;

in response to said message, selecting an alternate egress module capable of forwarding information to said destination; and

sending, via a second route, a future set of information from said ingress module to said alternate egress module for forwarding to said destination;

wherein directing said message to said ingress module comprises:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said ingress module;

obtaining a return route from said routing table, wherein said return route directs said message to said ingress module along a different path than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are

predetermined, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, and wherein selecting said alternate egress module comprises:

accessing said flow block to access the identifier associated with said alternate egress module.

27-34 Canceled

35. (Currently Amended) ~~The method of claim 34,~~ A method, implemented within a router of a network, for recovering from a failure, comprising:

sending, via a first route, a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router, wherein said first set of information traverses a path which encompasses at least a portion of said first route;

detecting an external failure beyond said first egress module;

in response to said external failure, directing a message to said ingress module informing said ingress module of said external failure;

in response to said message, selecting an alternate egress module capable of forwarding information to said destination;

sending, via a second route, a future set of information from said ingress module to said alternate egress module for forwarding to said destination, wherein said first set of information and said future set of information are both part of a flow; and

in response to said message, preventing other sets of information associated with said flow from being sent from said ingress module to said first egress module;

wherein directing said message to said ingress module comprises:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said ingress module;

obtaining a return route from said routing table, wherein said return route directs said message to said ingress module along a different path than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first egress module and said alternate egress module are predetermined, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, and wherein preventing comprises:

storing an indication in said flow block that all sets of information associated with said flow are not to be sent to said first egress module.

36. Canceled

37. (Currently Amended) ~~The method of claim 36,~~ A method, implemented within a router of a network, for recovering from a failure, comprising:

sending, via a first route, a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router, wherein said first set of information traverses a path which encompasses at least a portion of said first route;

detecting an external failure beyond said first egress module;

in response to said external failure, directing a message to said ingress module informing said ingress module of said external failure;

in response to said message, selecting an alternate egress module capable of forwarding information to said destination;

sending, via a second route, a future set of information from said ingress module to said alternate egress module for forwarding to said destination, wherein said first set of information and said future set of information are both part of a flow; and

in response to said message, causing other sets of information associated with said flow to be sent from said ingress module to said alternate egress module;

wherein directing said message to said ingress module comprises:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first egress module and said alternate egress module are predetermined, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, and wherein causing comprises:

storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

38. (Currently Amended) ~~The method of claim 33,~~ A method, implemented within a router of a network, for recovering from a failure, comprising:

sending, via a first route, a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router, wherein said first set of information traverses a path which encompasses at least a portion of said first route;

detecting an external failure beyond said first egress module;

in response to said external failure, directing a message to said ingress module informing said ingress module of said external failure;

in response to said message, selecting an alternate egress module capable of forwarding information to said destination; and

sending, via a second route, a future set of information from said ingress module to said alternate egress module for forwarding to said destination;

wherein directing said message to said ingress module comprises:

identifying said ingress module;



accessing a routing table which comprises one or more routes to said  
ingress module;  
obtaining a return route from said routing table, wherein said return route  
directs said message to said ingress module along a different path  
than that traversed by said first set of information; and  
sending said message to said ingress module via said return route; and  
wherein said first set of information and said future set of information are both  
part of a flow, wherein said first egress module and said alternate egress module are  
predetermined, wherein identifiers associated with said first egress module and said  
alternate egress module are stored within a flow block associated with said flow, and  
wherein selecting said alternate egress module comprises:  
accessing said flow block to access the identifier associated with said  
alternate egress module.

39-58 Canceled

59. (Currently Amended) ~~The router of claim 58,~~ A router, comprising:  
an ingress module;  
a first egress module;  
an alternate egress module; and  
a forwarding mechanism for forwarding information between said ingress  
module, said first egress module, and said alternate egress module;

wherein said ingress module sends a first set of information to said forwarding mechanism to be forwarded to said first egress module via a first route, said first set of information intended to be forwarded by said first egress module to a destination external to said router, said first set of information traversing a path which encompasses at least a portion of said first route, said forwarding mechanism detecting a failure which precludes forwarding of said first set of information to said first egress module, and in response to said failure, said forwarding mechanism directing a message to said ingress module informing said ingress module of said failure, and based upon said message, said ingress module determining that said first egress module has failed, and in response to said message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said forwarding mechanism directs said message to said ingress module  
by:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first set of information and said future set of information are both part of a flow, wherein said ingress module, in response to said message, prevents other sets of information associated with said flow from being sent from said ingress module to said first egress module, wherein said first egress module and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module prevents other sets of information associated with said flow from being sent from said ingress module to said first egress module by storing an indication in said flow block that all sets of information associated with said flow are not to be sent to said first egress module.

60. Canceled

61. (Currently Amended) ~~The router of claim 60,~~ A router, comprising:  
an ingress module;  
a first egress module;  
an alternate egress module; and  
a forwarding mechanism for forwarding information between said ingress module, said first egress module, and said alternate egress module;  
wherein said ingress module sends a first set of information to said forwarding mechanism to be forwarded to said first egress module via a first route, said first set of information intended to be forwarded by said first egress module to a destination external

to said router, said first set of information traversing a path which encompasses at least a portion of said first route, said forwarding mechanism detecting a failure which precludes forwarding of said first set of information to said first egress module, and in response to said failure, said forwarding mechanism directing a message to said ingress module informing said ingress module of said failure, and based upon said message, said ingress module determining that said first egress module has failed, and in response to said message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said forwarding mechanism directs said message to said ingress module by:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first set of information and said future set of information are both part of a flow, wherein said ingress module, in response to said message, causes other sets of information associated with said flow to be sent from said ingress module to said alternate egress module via said forwarding mechanism, wherein said first egress module

and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module causes other sets of information associated with said flow to be sent from said ingress module to said alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

62. (Currently Amended) ~~The router of claim 57,~~ A router, comprising:  
an ingress module;  
a first egress module;  
an alternate egress module; and  
a forwarding mechanism for forwarding information between said ingress  
module, said first egress module, and said alternate egress module;  
wherein said ingress module sends a first set of information to said forwarding  
mechanism to be forwarded to said first egress module via a first route, said first set of  
information intended to be forwarded by said first egress module to a destination external  
to said router, said first set of information traversing a path which encompasses at least a  
portion of said first route, said forwarding mechanism detecting a failure which precludes  
forwarding of said first set of information to said first egress module, and in response to  
said failure, said forwarding mechanism directing a message to said ingress module  
informing said ingress module of said failure, and based upon said message, said ingress  
module determining that said first egress module has failed, and in response to said

message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said forwarding mechanism directs said message to said ingress module  
by:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module selects said alternate egress module by accessing said flow block to access the identifier associated with said alternate egress module.

63-70 Canceled

71. (Currently Amended) ~~The router of claim 70,~~ A router, comprising:  
an ingress module;  
a first egress module;  
an alternate egress module; and  
a forwarding mechanism for forwarding information between said ingress  
module, said first egress module, and said alternate egress module;  
wherein said ingress module sends a first set of information to said forwarding  
mechanism to be forwarded to said first egress module via a first route, said first set of  
information intended to be forwarded by said first egress module to a destination external  
to said router, said first set of information traversing a path which encompasses at least a  
portion of said first route, said first egress module detecting an external failure which  
precludes said first egress module from forwarding said first set of information to said  
destination, and in response to said external failure, said first egress module directing a  
message to said ingress module informing said ingress module of said external failure,  
and in response to said message, said ingress module selecting said alternate egress  
module and sending a future set of information to said forwarding mechanism to be  
forwarded to said alternate egress module, said future set of information intended to be  
forwarded by said alternate egress module to said destination;  
wherein said first egress module directs said message to said ingress module by:  
identifying said ingress module;  
accessing a routing table which comprises one or more routes to said  
ingress module;

obtaining a return route from said routing table, wherein said return route  
directs said message to said ingress module along a different path  
than that traversed by said first set of information; and  
sending said message to said ingress module via said return route; and  
wherein said first set of information and said future set of information are both  
part of a flow, wherein said ingress module, in response to said message, prevents other  
sets of information associated with said flow from being sent from said ingress module to  
said first egress module, wherein said first egress module and said alternate egress  
module are predetermined, wherein said ingress module comprises a memory, wherein  
identifiers associated with said first egress module and said alternate egress module are  
stored within a flow block associated with said flow, said flow block being stored in said  
memory, and wherein said ingress module prevents other sets of information associated  
with said flow from being sent from said ingress module to said first egress module by  
storing an indication in said flow block that all sets of information associated with said  
flow are not to be sent to said first egress module.

72. Canceled

73. (Currently Amended) ~~The router of claim 72,~~ A router, comprising:  
an ingress module;  
a first egress module;  
an alternate egress module; and



a forwarding mechanism for forwarding information between said ingress module, said first egress module, and said alternate egress module;

wherein said ingress module sends a first set of information to said forwarding mechanism to be forwarded to said first egress module via a first route, said first set of information intended to be forwarded by said first egress module to a destination external to said router, said first set of information traversing a path which encompasses at least a portion of said first route, said first egress module detecting an external failure which precludes said first egress module from forwarding said first set of information to said destination, and in response to said external failure, said first egress module directing a message to said ingress module informing said ingress module of said external failure, and in response to said message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said first egress module directs said message to said ingress module by:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first set of information and said future set of information are both part of a flow, wherein said ingress module, in response to said message, causes other sets of information associated with said flow to be sent from said ingress module to said alternate egress module via said forwarding mechanism, wherein said first egress module and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module causes other sets of information associated with said flow to be sent from said ingress module to said alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

74. (Currently Amended) ~~The router of claim 69,~~ A router, comprising:  
an ingress module;  
a first egress module;  
an alternate egress module; and  
a forwarding mechanism for forwarding information between said ingress module, said first egress module, and said alternate egress module;  
wherein said ingress module sends a first set of information to said forwarding mechanism to be forwarded to said first egress module via a first route, said first set of information intended to be forwarded by said first egress module to a destination external to said router, said first set of information traversing a path which encompasses at least a portion of said first route, said first egress module detecting an external failure which

precludes said first egress module from forwarding said first set of information to said destination, and in response to said external failure, said first egress module directing a message to said ingress module informing said ingress module of said external failure, and in response to said message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said first egress module directs said message to said ingress module by:

identifying said ingress module;

accessing a routing table which comprises one or more routes to said

ingress module;

obtaining a return route from said routing table, wherein said return route

directs said message to said ingress module along a different path

than that traversed by said first set of information; and

sending said message to said ingress module via said return route; and

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module selects said alternate egress module by accessing said flow block to access the identifier associated with said alternate egress module.

75-136 Canceled.

137. (Previously Presented) A method, implemented within a router of a network, for recovering from a failure, comprising:

- sending a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router;
- detecting a failure of said first egress module;
- in response to said failure of said first egress module, directing a message to said ingress module informing said ingress module of said first egress module failure;
- in response to said message, selecting an alternate egress module capable of forwarding information to said destination; and
- sending a future set of information from said ingress module to said alternate egress module for forwarding to said destination;

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, and wherein selecting said alternate egress module comprises:

- accessing said flow block to access the identifier associated with said alternate egress module.

138. (Previously Presented) The method of claim 137, further comprising:

in response to said message, preventing other sets of information associated with said flow from being sent from said ingress module to said first egress module by storing an indication in said flow block that all sets of information associated with said flow are not to be sent to said first egress module.

139. (Previously Presented) The method of claim 137, further comprising:  
in response to said message, causing other sets of information associated with said flow to be sent from said ingress module to said alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

140. (Previously Presented) A method, implemented within a router of a network, for recovering from a failure, comprising:  
sending a first set of information from an ingress module to a first egress module for forwarding by said first egress module to a destination external to said router;  
detecting an external failure beyond said first egress module;  
in response to said external failure, directing a message to said ingress module informing said ingress module of said external failure;  
in response to said message, selecting an alternate egress module capable of forwarding information to said destination; and  
sending a future set of information from said ingress module to said alternate egress module for forwarding to said destination;

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, and wherein selecting said alternate egress module comprises:

accessing said flow block to access the identifier associated with said alternate egress module.

141. (Previously Presented) The method of claim 140, further comprising:  
in response to said message, preventing other sets of information associated with said flow from being sent from said ingress module to said first egress module by storing an indication in said flow block that all sets of information associated with said flow are not to be sent to said first egress module.

142. (Previously Presented) The method of claim 140, further comprising:  
in response to said message, causing other sets of information associated with said flow to be sent from said ingress module to said alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

143. (Previously Presented) A router, comprising:  
an ingress module;  
a first egress module;

an alternate egress module; and

a forwarding mechanism for forwarding information between said ingress module, said first egress module, and said alternate egress module;

wherein said ingress module sends a first set of information to said forwarding mechanism to be forwarded to said first egress module, said first set of information intended to be forwarded by said first egress module to a destination external to said router, said forwarding mechanism detecting a failure which precludes forwarding of said first set of information to said first egress module, and in response to said failure, said forwarding mechanism directing a message to said ingress module informing said ingress module of said failure, and based upon said message, said ingress module determining that said first egress module has failed, and in response to said message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module selects said alternate egress module by accessing said flow block to access the identifier associated with said alternate egress module.

144. (Previously Presented) The router of claim 143, wherein said ingress module, in response to said message, prevents other sets of information associated with said flow from being sent from said ingress module to said first egress module by storing an indication in said flow block that all sets of information associated with said flow are not to be sent to said first egress module.

145. (Previously Presented) The router of claim 143, wherein said ingress module, in response to said message, causes other sets of information associated with said flow to be sent from said ingress module to said alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

146. (Previously Presented) A router, comprising:

- an ingress module;
- a first egress module;
- an alternate egress module; and
- a forwarding mechanism for forwarding information between said ingress module, said first egress module, and said alternate egress module;

wherein said ingress module sends a first set of information to said forwarding mechanism to be forwarded to said first egress module, said first set of information intended to be forwarded by said first egress module to a destination external to said router, said first egress module detecting an external failure which precludes said first



egress module from forwarding said first set of information to said destination, and in response to said external failure, said first egress module directing a message to said ingress module informing said ingress module of said external failure, and in response to said message, said ingress module selecting said alternate egress module and sending a future set of information to said forwarding mechanism to be forwarded to said alternate egress module, said future set of information intended to be forwarded by said alternate egress module to said destination;

wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein said ingress module comprises a memory, wherein identifiers associated with said first egress module and said alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein said ingress module selects said alternate egress module by accessing said flow block to access the identifier associated with said alternate egress module.

147. (Previously Presented) The router of claim 146, wherein said ingress module, in response to said message, prevents other sets of information associated with said flow from being sent from said ingress module to said first egress module by storing an indication in said flow block that all sets of information associated with said flow are not to be sent to said first egress module.

148. (Previously Presented) The router of claim 146, wherein said ingress module, in response to said message, causes other sets of information associated with said flow to be sent from said ingress module to said alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to said alternate egress module.

149. (Previously Presented) A method implemented by an ingress module in a router, comprising:

- sending a first set of information to a first egress module, said first set of information intended to be forwarded by the first egress module to a destination external to the router;

- receiving a message indicating that said first set of information did not reach the destination successfully;

- determining based upon said message whether future sets of information should be sent to the first egress module;

- in response to a determination that future sets of information should not be sent to the first egress module, selecting an alternate egress module capable of forwarding information to the destination; and

- sending a future set of information to the alternate egress module to be forwarded by the alternate egress module to the destination;

- wherein said first set of information and said future set of information are both part of a flow, wherein said first egress module and said alternate egress module are predetermined, wherein identifiers associated with said first egress module and said

alternate egress module are stored within a flow block associated with said flow, and wherein selecting the alternate egress module comprises:

accessing said flow block to access the identifier associated with the alternate egress module.

150. (Previously Presented) The method of claim 149, further comprising:  
in response to a determination that future sets of information should not be sent to the first egress module, preventing other sets of information associated with said flow from being sent to the first egress module by storing an indication in said flow block that all sets of information associated with said flow are not to be sent to the first egress module.

151. (Previously Presented) The method of claim 149, further comprising:  
in response to a determination that future sets of information should not be sent to the first egress module, causing other sets of information associated with said flow to be sent to the alternate egress module by storing an indication in said flow block that all sets of information associated with said flow are to be sent to the alternate egress module.

152. (Previously Presented) An ingress module in a router, comprising:  
a mechanism for sending a first set of information to a first egress module, said first set of information intended to be forwarded by the first egress module to a destination external to the router;

a mechanism for receiving a message indicating that said first set of information did not reach the destination successfully;

a mechanism for determining based upon said message whether future sets of information should be sent to the first egress module;

a mechanism for selecting, in response to a determination that future sets of information should not be sent to the first egress module, an alternate egress module capable of forwarding information to the destination; and

a mechanism for sending a future set of information to the alternate egress module to be forwarded by the alternate egress module to the destination;

wherein said ingress module comprises a memory, wherein said first set of information and said future set of information are both part of a flow, wherein the first egress module and the alternate egress module are predetermined, wherein identifiers associated with the first egress module and the alternate egress module are stored within a flow block associated with said flow, said flow block being stored in said memory, and wherein the mechanism for selecting the alternate egress module comprises:

a mechanism for accessing said flow block to access the identifier associated with the alternate egress module.

153. (Previously Presented) The ingress module of claim 152, further comprising:

a mechanism for preventing, in response to a determination that future sets of information should not be sent to the first egress module, other sets of information associated with said flow from being sent to the first egress module, the mechanism for

preventing comprising a mechanism for storing an indication in said flow block that all sets of information associated with said flow are not to be sent to the first egress module.

154. (Previously Presented) The ingress module of claim 152, further comprising:

a mechanism for causing, in response to a determination that future sets of information should not be sent to the first egress module, other sets of information associated with said flow to be sent to the alternate egress module, the mechanism for causing comprising a mechanism for storing an indication in said flow block that all sets of information associated with said flow are to be sent to the alternate egress module.

155-160 Canceled

161. (Previously Presented) In a router comprising an ingress module, a first egress module, and an alternate egress module, a method implemented by the ingress module, comprising:

sending a first set of information to the first egress module, said first set of information intended to be forwarded by the first egress module to a destination external to the router;

receiving a message indicating that the first egress module failed;

in response to said message, selecting the alternate egress module, which is capable of forwarding information to the destination; and

sending a future set of information to the alternate egress module to be forwarded by the alternate egress module to the destination;

wherein said first set of information and said future set of information are both part of a flow, wherein the first egress module and the alternate egress module are predetermined, wherein identifiers associated with the first egress module and the alternate egress module are stored within a flow block associated with said flow, and wherein selecting the alternate egress module comprises:

accessing said flow block to access the identifier associated with the alternate egress module.

162. (Previously Presented) The method of claim 161, further comprising:  
preventing other sets of information associated with said flow from being sent to the first egress module.

163. (Previously Presented) The method of claim 162, wherein preventing comprises:

storing an indication in said flow block that all sets of information associated with said flow are not to be sent to the first egress module.

164. (Previously Presented) The method of claim 161, further comprising:  
causing other sets of information associated with said flow to be sent to the alternate egress module.

165. (Previously Presented) The method of claim 164, wherein causing comprises:

storing an indication in said flow block that all sets of information associated with said flow are to be sent to the alternate egress module.

166. Canceled

167. (Previously Presented) The method of claim 161, wherein said first set of information comprises a data portion, and wherein said method further comprises:

resending at least said data portion of said first set of information to the alternate egress module to be forwarded by the alternate egress module to the destination.

168. (Previously Presented) The method of claim 167, wherein said message indicating that the first egress module failed comprises said data portion of said first set of information.

169-174. Canceled

175. (Previously Presented) In a router comprising a first egress module and an alternate egress module, an ingress module, comprising:

a mechanism for sending a first set of information to the first egress module, said first set of information intended to be forwarded by the first egress module to a destination external to the router;

a mechanism for receiving a message indicating that the first egress module failed;

a mechanism for selecting, in response to said message, the alternate egress module, which is capable of forwarding information to the destination; and

a mechanism for sending a future set of information to the alternate egress module to be forwarded by the alternate egress module to the destination;

wherein said first set of information and said future set of information are both part of a flow, wherein the first egress module and the alternate egress module are predetermined, wherein identifiers associated with the first egress module and the alternate egress module are stored within a flow block associated with said flow, and wherein the mechanism for selecting the alternate egress module comprises:

a mechanism for accessing said flow block to access the identifier associated with the alternate egress module.

176. (Previously Presented) The ingress module of claim 175, further comprising:

a mechanism for preventing other sets of information associated with said flow from being sent to the first egress module.

177. (Previously Presented) The ingress module of claim 176, wherein the mechanism for preventing comprises:

a mechanism for storing an indication in said flow block that all sets of information associated with said flow are not to be sent to the first egress module.



178. (Previously Presented) The ingress module of claim 175, further comprising:

a mechanism for causing other sets of information associated with said flow to be sent to the alternate egress module.

179. (Previously Presented) The ingress module of claim 178, wherein the mechanism for causing comprises:

a mechanism for storing an indication in said flow block that all sets of information associated with said flow are to be sent to the alternate egress module.

180. Canceled

181. (Previously Presented) The ingress module of claim 175, wherein said first set of information comprises a data portion, and wherein said ingress module further comprises:

a mechanism for resending at least said data portion of said first set of information to the alternate egress module to be forwarded by the alternate egress module to the destination.

182. (Previously Presented) The ingress module of claim 181, wherein said message indicating that the first egress module failed comprises said data portion of said first set of information.